```
his

     (FILE 'HOME' ENTERED AT 13:28:42 ON 24 JUL 2002)

     FILE 'CAPLUS, EMBASE, BIOSIS, MEDLINE, WPIDS' ENTERED AT 13:28:50 ON 24
     JUL 2002
L1          2858 S (POLYMER? OR POLYCARBONAT?)(3A)(FILM? OR LID? OR COVER?)(15A)
L2          2620 S L1 AND (LAMINATE? OR FILM? OR MONOFILM? OR COMPOSITE?)
L3          2591 S L1 (20A)(LAMINATE? OR FILM? OR MONOFILM? OR COMPOSITE?)
L4           333 S L3 AND POLYCARBONAT?
L5             1 S L4 AND (SELECTIV?)(5A) (GAS?)
L6         20577 S (PERMEABL? OR PERMEABIL?)(3A)(FILM? OR SHEET? OR LAMINATE?)
L7             7 S L4 AND L6
L8             7 DUP REM L7 (0 DUPLICATES REMOVED)
L9         24308 S (PERMEABL? OR PERMEABIL?)(3A)(FILM? OR SHEET? OR LAMINATE? OR
L10           36 S L1 AND L9
L11           34 DUP REM L10 (2 DUPLICATES REMOVED)
L12            1 S L11 AND ARRAY?
L13           31 S L1 AND ARRAY?
L14           31 DUP REM L13 (0 DUPLICATES REMOVED)
L15         6580 S (MICROTITER)(2A)(PLATE)
L16            7 S L15 AND L1
L17            5 DUP REM L16 (2 DUPLICATES REMOVED)
L18            6 S L1(10A)(MICROARRAY? OR ARRAY? OR NANOARRAY?)
L19            6 DUP REM L18 (0 DUPLICATES REMOVED)
L20        17798 S (SELF)(2A)(ASSEMB?)(2A)(MONOLAYER?) OR OR SAMS
L21            6 S L20 (10A)(POLYCARBONAT?)
L22            6 DUP REM L21 (0 DUPLICATES REMOVED)

=>
```

L17 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
AN 2000:338414 CAPLUS
DN 133:161397
TI Optical detection of polycations via **polymer film** -modified **microtiter plates**: response mechanism and bioanalytical applications
AU Dai, Sheng; Ye, Qingshan; Wang, Enju; Meyerhoff, Mark E.
CS Department of Chemistry, The University of Michigan, Ann Arbor, MI, 48109-1055, USA
SO Analytical Chemistry (2000), 72(14), 3142-3149
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
AB **Microtiter plate** wells modified with thin (.apprx.20 .mu.m) **polymeric films** capable of optically sensing macromol. protamine and other polycationic species are described. The plates are prepd. by coating the bottom of each well of a conventional 96-well polypropylene **plate** with an adherent **polymer film** (a mixt. of poly(vinyl chloride) and polyurethane) contg. a lipophilic 2',7'-dichlorofluorescein deriv. Surprisingly, optical response toward polycations is shown to result from the extn. of the fluorescein deriv. from the polymer film into a lyophobic colloidal phase at the sample/film interface. This new phase is likely composed of a micellular-type ion pair complex between the analyte polycation from aq. sample phase and the deprotonated form of the fluorescein deriv. Accumulation of the deprotonated fluorescein species in this interfacial region induces an absorbance change measured at 540 nm. Optimized plates can be used to sense protamine concns. in the range of 0-100 .mu.g/mL in 10 min with little or no response to physiol. levels of common cationic species (Na+, K+, Ca2+, etc.). The modified plates are shown to be useful as simple optical detectors for measuring heparin levels in plasma via titrns. with protamine and for monitoring protease activities (trypsin and plasmin) that cleave polycationic peptides/proteins such as protamine into smaller peptide fragments that are not detected by the sensing films. Assays for "clot busting" plasminogen activators (streptokinase, urokinase, and tissue plasminogen activator) are also demonstrated using this relatively simple **microtiter plate**-based polycation detection system.
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

L17 ANSWER 2 OF 5 WPIDS (C) 2002 THOMSON DERWENT
AN 2000-225108 [20] WPIDS
DNN N2000-168663 DNC C2000-068908
TI Surface modification of **microtiter plates**, useful in chemical assays, immunoassays or drug screening assays, comprises forming insoluble **polymer film**.
DC A89 B04 D16 J04 S03
IN GANNA, E; PANASYUK, T; PILETSKA, O; PILETSKY, S; SCHEDLER, U; SERGEYEVA, T; ULBRICHT, M
PA (POLY-N) POLY-AN GMBH
CYC 1
PI DE 19832598 A1 20000309 (200020)* 11p
DE 19832598 C2 20020214 (200211)
ADT DE 19832598 A1 DE 1998-19832598 19980709; DE 19832598 C2 DE 1998-19832598 19980709
PRAI DE 1998-19832598 19980709
AB DE 19832598 A UPAB: 20000426
NOVELTY - Method for modifying the surface of microtiter plates comprises chemical or photochemical grafting, radical or ionic polymerization or polymer crosslinking, including molecular impact polymerization, to form a stable insoluble film that can be used to monitor the formation and/or conversion of substances in solution and/or on the surface of the **microtiter plate**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) a method for determining the pH of samples by contacting them with the modified **microtiter plates** and measuring the light absorption of the **polymer film**; (2) a method for determining substances in contact with the modified **microtiter plates**, in which one or more enzymes, receptors, antibodies or cells are immobilized on the polymer surface, comprising measuring the change in the optical properties of the polymer film caused by a protonation/deprotonation or redox redox reaction in the course of the binding and/or catalytic conversion of the substances; (3) an enzyme-linked immunosorbent assay (ELISA) method in which the antibodies, receptors or antigens immobilized on the **microtiter plate** surface are replaced by molecular impact polymers (MIPs); (4) a drug screening method in which the receptors or ligands immobilized on the **microtiter plate** surface are replaced by MIPs; (5) an ELISA method in which antibodies, receptors or antigens are immobilized on the surface of the modified microtiter plates; (6) an assay based on the modified microtiter plates in which a change in absorption spectrum (wavelength), radioactivity, fluorescence, phosphorescence, chemiluminescence or bioluminescence is used for quantitative determination; (7) a method for monitoring cell cultures, comprising measuring pH, substrate concentration or metabolite concentration with the modified microtiter plates; (8) a method for surface modification of optical elements (fibers or films) by chemical or photochemical grafting, radical or ionic polymerization or polymer crosslinking, including molecular impact polymerization, to form a stable insoluble film that can be used to monitor the formation and/or conversion of substances in solution and/or on the surface of the optical element; and (9) use of the polymer-modified optical elements of (8) in sensors.

USE - The modified microtiter plates are useful in: (1) a method for determining the pH of samples by contacting them with the modified **microtiter plates** and measuring the light absorption of the **polymer film**; (2) a method for determining substances in contact with the modified **microtiter plates**, in which one or more enzymes, receptors, antibodies or cells are immobilized on the polymer surface, comprising measuring the change in the optical properties of the polymer film caused by a protonation/deprotonation or redox redox reaction in the course of the

binding and/or catalytic conversion of the substances; (3) an enzyme-linked immunosorbent assay (ELISA) method in which the antibodies, receptors or antigens immobilized on the **microtiter plate** surface are replaced by molecular impact polymers (MIPs); (4) a drug screening method in which the receptors or ligands immobilized on the **microtiter plate** surface are replaced by MIPs; (5) an ELISA method in which antibodies, receptors or antigens are immobilized on the surface of the modified microtiter plates; (6) an assay in which a change in absorption spectrum (wavelength), radioactivity, fluorescence, phosphorescence, chemiluminescence or bioluminescence is used for quantitative determination; and (7) a method for monitoring cell cultures, comprising measuring pH, substrate concentration or metabolite concentration with the modified microtiter plates.

Dwg.0/4

TI Surface modification of **microtiter plates**, useful in chemical assays, immunoassays or drug screening assays, comprises forming insoluble **polymer film**.

AB . . .

that can be used to monitor the formation and/or conversion of substances in solution and/or on the surface of the **microtiter plate**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) a method for determining the pH of samples by contacting them with the modified **microtiter plates** and measuring the light absorption of the **polymer film**; (2) a method for determining substances in contact with the modified **microtiter plates**, in which one or more enzymes, receptors, antibodies or cells are immobilized on the polymer surface, comprising measuring the change. . . of the substances; (3) an enzyme-linked immunosorbent assay (ELISA) method in which the antibodies, receptors or antigens immobilized on the **microtiter plate** surface are replaced by molecular impact polymers (MIPs); (4) a drug screening method in which the receptors or ligands immobilized on the **microtiter plate** surface are replaced by MIPs; (5) an ELISA method in which antibodies, receptors or antigens are immobilized on the surface. . . microtiter plates are useful in: (1) a method for determining the pH of samples by contacting them with the modified **microtiter plates** and measuring the light absorption of the **polymer film** ; (2) a method for determining substances in contact with the modified **microtiter plates**, in which one or more enzymes, receptors, antibodies or cells are immobilized on the polymer surface, comprising measuring the change. . . of the substances; (3) an enzyme-linked immunosorbent assay (ELISA) method in which the antibodies, receptors or antigens immobilized on the **microtiter plate** surface are replaced by molecular impact polymers (MIPs); (4) a drug screening method in which the receptors or ligands immobilized on the **microtiter plate** surface are replaced by MIPs; (5) an ELISA method in which antibodies, receptors or antigens are immobilized on the surface. . .

TT TT: SURFACE MODIFIED **PLATE** USEFUL CHEMICAL ASSAY IMMUNOASSAY DRUG SCREEN ASSAY COMPRISE FORMING INSOLUBLE **POLYMER FILM**.

=>